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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,651	06/28/2001	Dieter Otto	1589.GLE.PT	4840

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EXAMINER

TRIEU, THERESA

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 04/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/787,651

Applicant(s)

OTTO, DIETER

Examiner

Theresa Trieu

Art Unit

3748

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 33-42, 60-71, 89-99, 117, 118, 120 and 121 is/are pending in the application.

4a) Of the above claim(s) 61-90, 100-116, 119 is/are withdrawn from consideration.

- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 33-42, 60, 91-99, 117, 118 and 120 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

This Office Action is responsive to the applicant's election filed on March 28, 2002.

### *Election/Restrictions*

1. Applicant's election without traverse of the species of Figures 1-9 in Paper No. 11 is acknowledged. However, claims 61-90 belong to species disclosed in Figures 10A-10C; therefore, the examiner has not examined these claims. The examiner has examined claims 33-42, 60, 91-99, 117, 118, 120, and 121 which read on the elected species of Figures 1-9.

2. Claims 61-90, 100-116, 119 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species. The election was made **without** traverse in Paper No. 11.

### *Double Patenting*

3. Applicant is advised that should claim 1 be found allowable, claim 60 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

*Drawings*

4. The drawings are objected to under 37 CFR 1.83(a) because they fail to show “drive shaft” (see page 7, line 16) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). The drawings must show every feature of the invention specified in the claims. Therefore, the “drive shaft”, recited in claim 33, 35 and 118, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. Applicants are required to shade the rotor (1) with the shading scheme which represents a plastic (see MPEP §608.02).

*Specification*

6. The disclosure is objected to because of the following informalities:

- On page 37, line 2, “*ah*” should be deleted.
- Claim 121, on page 36 (see Paper No. 5), line 2, “ (5) ” should be deleted.
- The following informalities: the following headings in the specification are missing: Background of the Invention, Summary of the Invention, Brief Description of the Drawing, and Detailed Description of the

Invention. Applicant is requested to insert heading to separate the various parts of the application.

Appropriate correction is required.

### *Claim Objections*

7. Claims 33, 35 and 118 are objected to, in that their subject matter needs to be incorporated into the specification and the drawings.

### *Claim Rejections - 35 USC § 102*

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

*Claims 33, 38-40 and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Otto (Patent Number 5,707,222).*

Re claims 33, 60 as shown in Figures 1 and 2, Otto discloses a vacuum pump comprising: a drivable rotor (7) having a blade in a housing which can be set in rotation, the rotor being comprising plastic (see col. 4, line 1-2) and being formed as one piece, the rotor comprising a

Art Unit: 3748

first longitudinal section (13) configured for being coupled to a drive shaft via which a torque can be transmitted from a drive shaft to the rotor (1) and that the first longitudinal section (13) being formed as one piece with the rotor.

Re claims 38-40, Otto further discloses the rotor has a slot (19) and at least one support having (15, 17) a diameter which is smaller than the rotor diameter in the area of the slot in which the blade is displaceable; the rotor (1) having a diameter and a slot and wherein the rotor has at least one support (15, 17) whose diameter is the same size as the rotor diameter in the area of the slot in which the blade is displaceable.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Claims 34-37, 41, 42, 91- 99, 117, 118, 120 and 121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otto in view of Hattori et al. (Publication Number 61-149594).***

Re claims 91, 95-97, 117 and 118, as shown in Figures 1 and 2, Otto discloses a drivable rotor configured for rotating a blade in a housing, the rotor comprising plastic (see col. 4, line 1-2) and being formed as one piece; the rotor (7) having a slot (19) and at least one support having a diameter is smaller than the rotor diameter in the area of the slot in which the blade is displaceable; the rotor (7) has a diameter and a slot and wherein the rotor (7) has at least one support whose diameter is the same size as the rotor diameter in the area of the slot in which the blade is displaceable; the rotor (7) being disposed in communication with a motor. However, Otto fails to disclose the cavities into the central area of the rotor.

Re claims 34 and 91, Hattori et al. teach that it is conventional in the art to utilize the cavity (19) opening at the edge of the rotor (1); the rotor (1) having at least two cavities (19) which are each introduced from a frontal side of the rotor and that the rotor having at least one closed wall (not numbered; however, clearly seen in Figure 1 and 2) running transversely or essentially transversely to the central longitudinal axis of the rotor (1), the wall separating the cavities (19) from one another in the axial direction. With regard to claims 35-37, 41, 42, 92-94, 98, 99, 120 and 121, as shown in Figures 2, 3 and 7, Hattori et al. further disclose the cavity is introduced from a position consisting of the group of the drive shaft (3), frontal side of the rotor, and the frontal face of the rotor (2) turned away from the drive; the rotor (2) comprising walls having a slight thickness (see Figure 2); the rotor (2) comprising two wall areas and a transition

Art Unit: 3748

between the two wall areas of the rotor having a different thickness, and which is continuous; the rotor having at least two cavities (19) disposed next to one another which are separated from one another by a rib (see Figure 7); the rotor (1) having wall areas and wherein the rib is thinner than the rest of the wall areas of the rotor (see Figure 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the rotor having a least the cavity as taught by Hattori et al. to reduce the weight of the rotor, in the Otto device.

#### *Prior Art*

The IDS (PTO-1449) filed on August 31, 2001 and September 10, 2001 has been considered. An initialized copy is attached hereto.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of fifteen patents.

Campbell (Patent Number 1,452,024) discloses a rotary compressor.

Gondek (Patent Number 2,897,662) discloses a shaft couplings.

Gondek (Patent Number 3,016,723) discloses a shaft couplings.

Meyer (Patent Number 3,053,438) discloses a rotary blowers.

Gram (Patent Number 3,260,210) discloses a pumps for admixing solid or semi-solid ingredients to a viscous fluid under pressure.

Hertell et al. (Patent Number 4,604,041) disclose a rotary vane pump.



Hekamn et al. (Patent Number 5,181,843) disclose an internally constrained vane compressor.

Kerren (Publication Number DE 2,622,164) discloses a rotary vane type pump made of graphite – has exchangeable rotor and spacer ring for displacement variation.

Isayama et al. (Publication Number JP 59-155595) disclose a rotor shaft for compressor and manufacture thereof.

Isayama (Publication Number JP 60-095198) discloses a rotary compressor.

Hertell (Publication Number DE 264,749) discloses sliding vane vacuum pump.

Magneti (Publication Number DE 19,834,033) discloses a vacuum pump for brake servo.

Takagi (Publication Number JP 04-159483) discloses a compressor.

Art Unit: 3748

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa Trieu whose telephone number is 703-308-6434. The examiner can normally be reached on Monday-Friday 7:30am- 5:00pm - First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E Denion can be reached on 703-308-2623. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-308-9302 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

TT

April 22, 2002



Theresa Trieu

Patent Examiner

Art Unit: 3748



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